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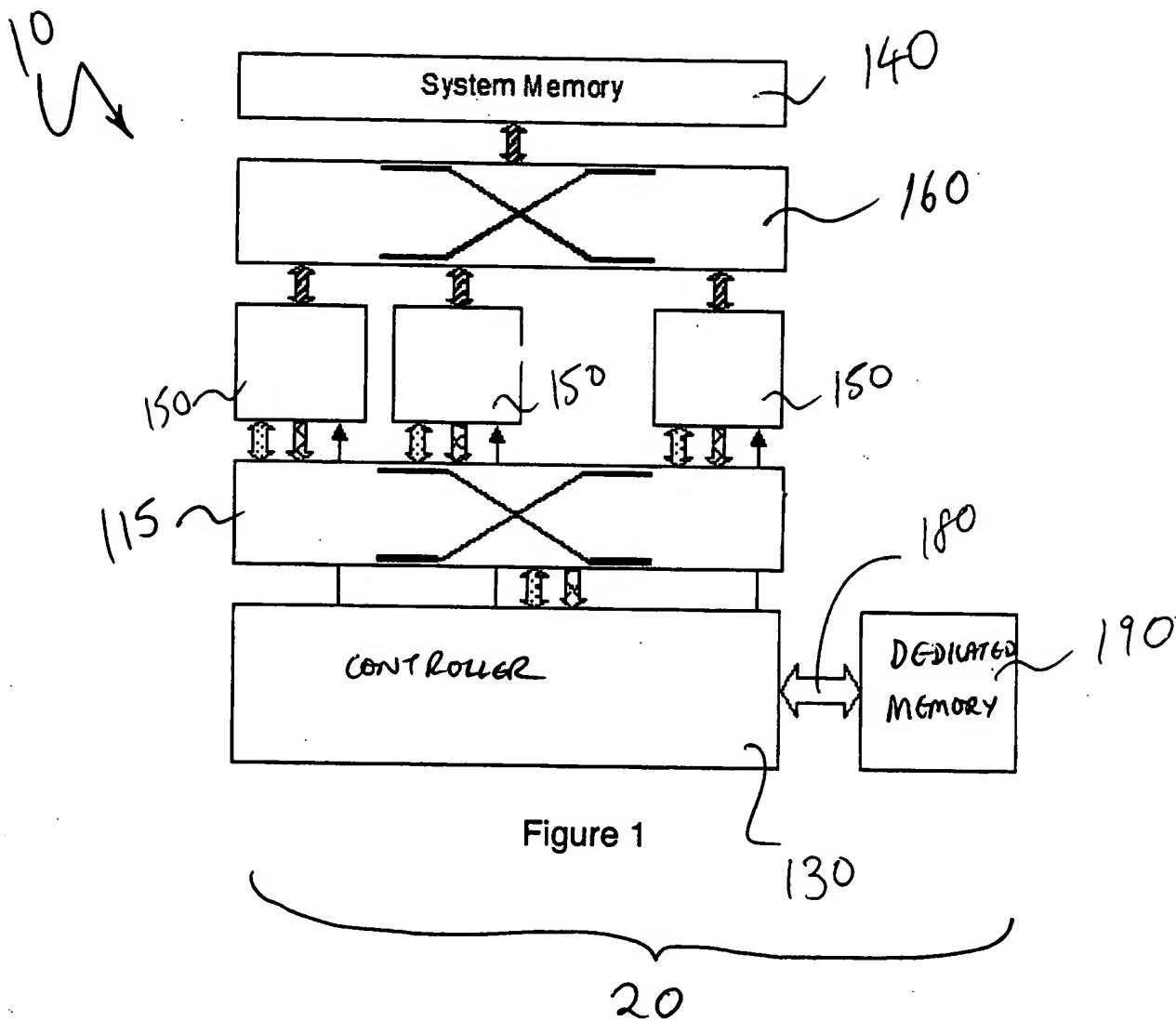


Figure 1

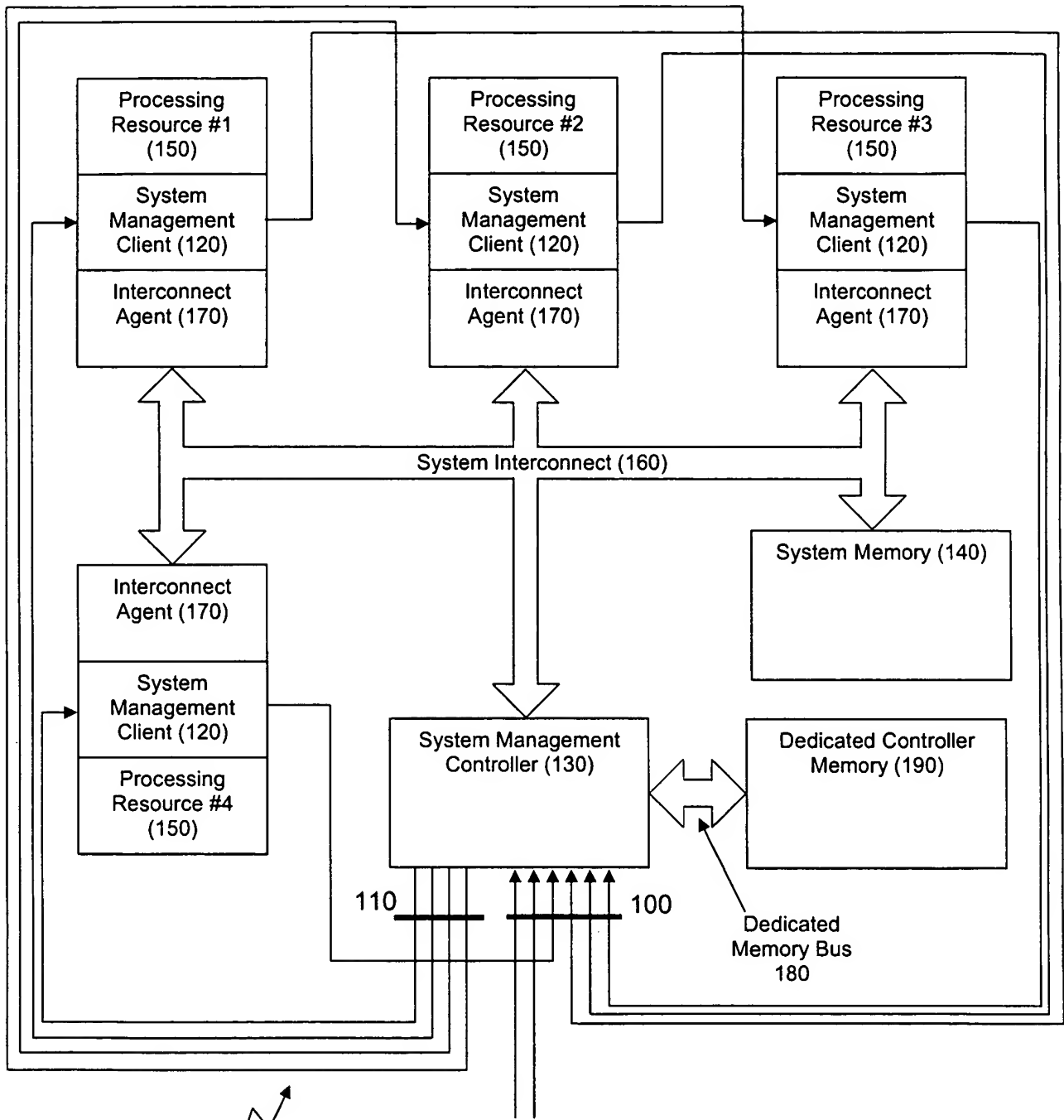


Figure 2

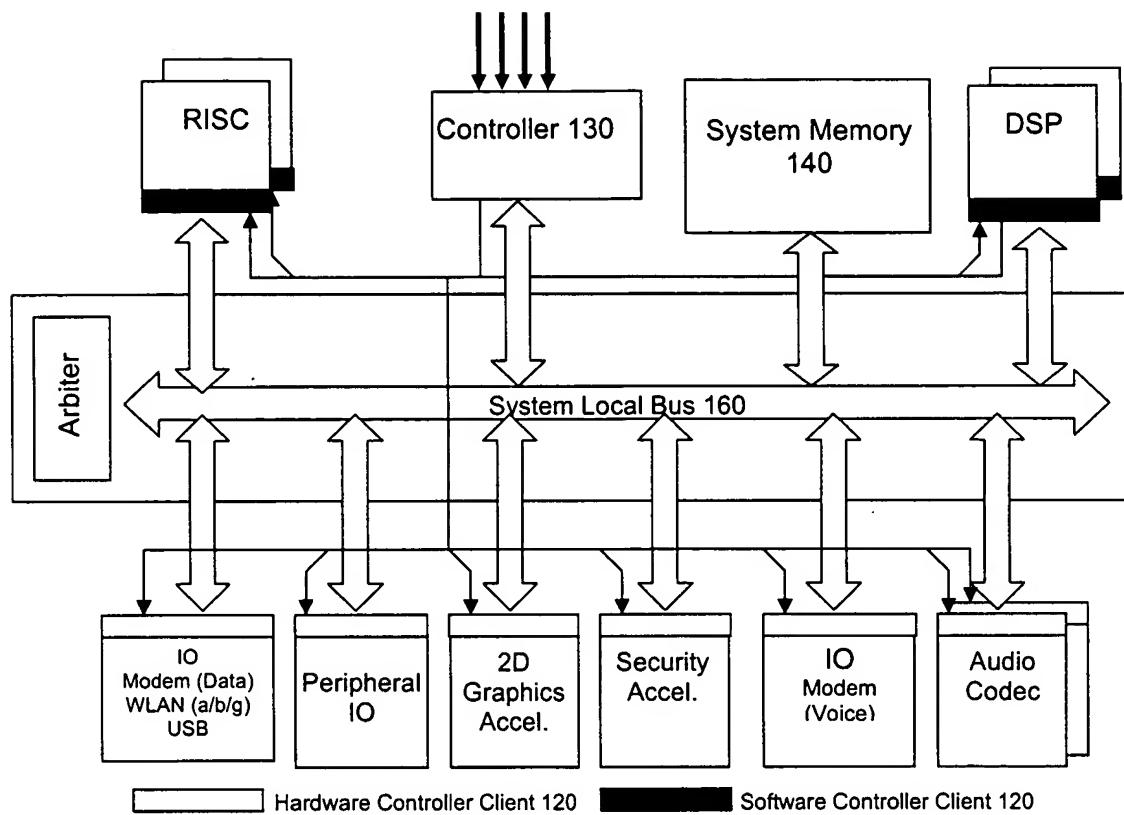


Figure 3

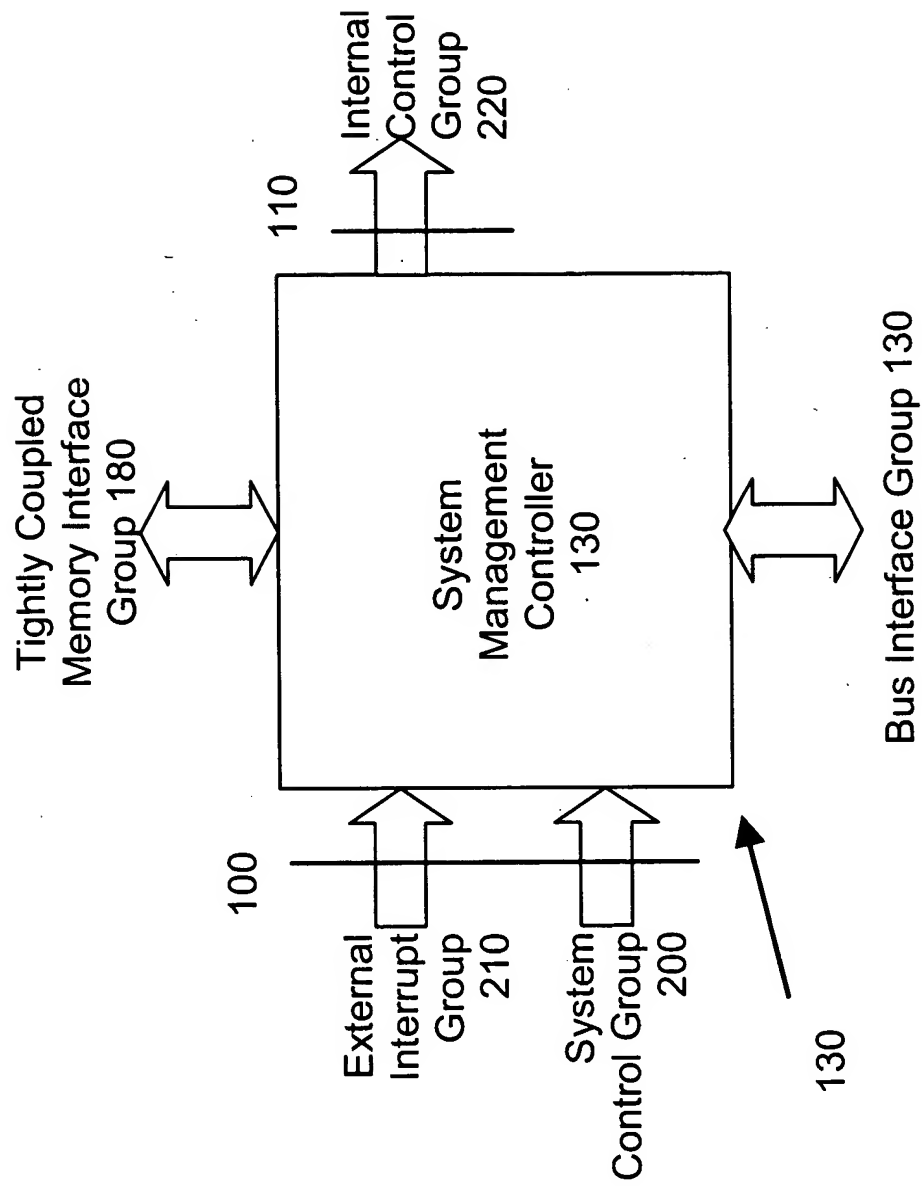


Figure 4

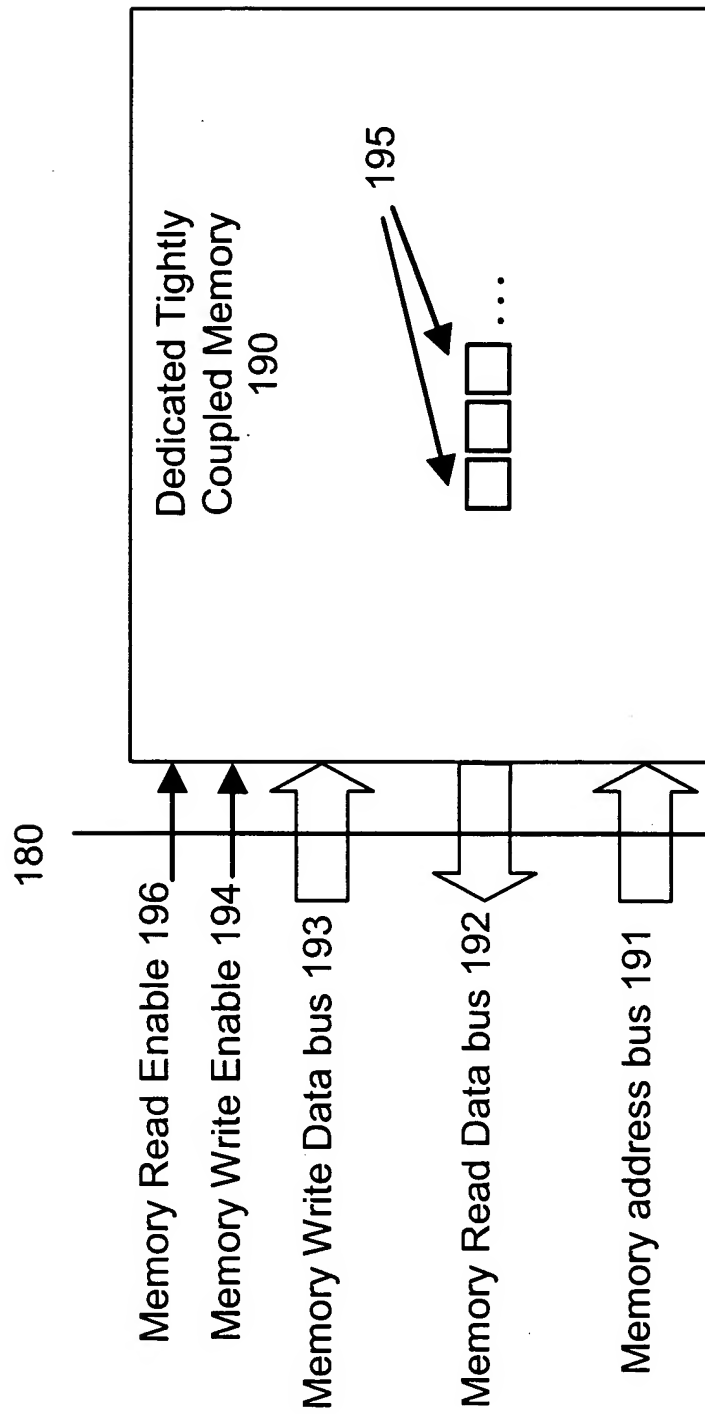


Figure 5

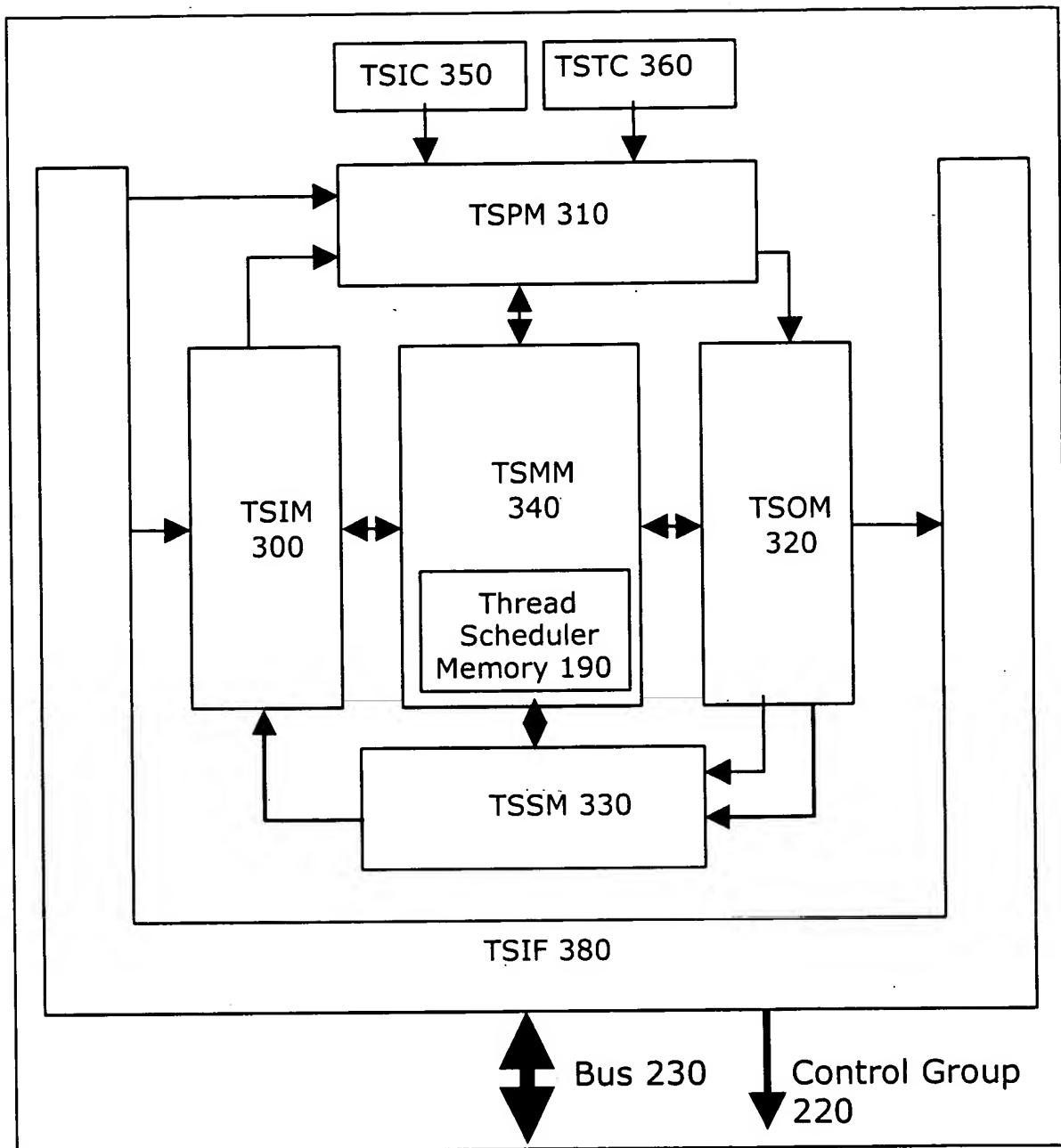


Figure 6

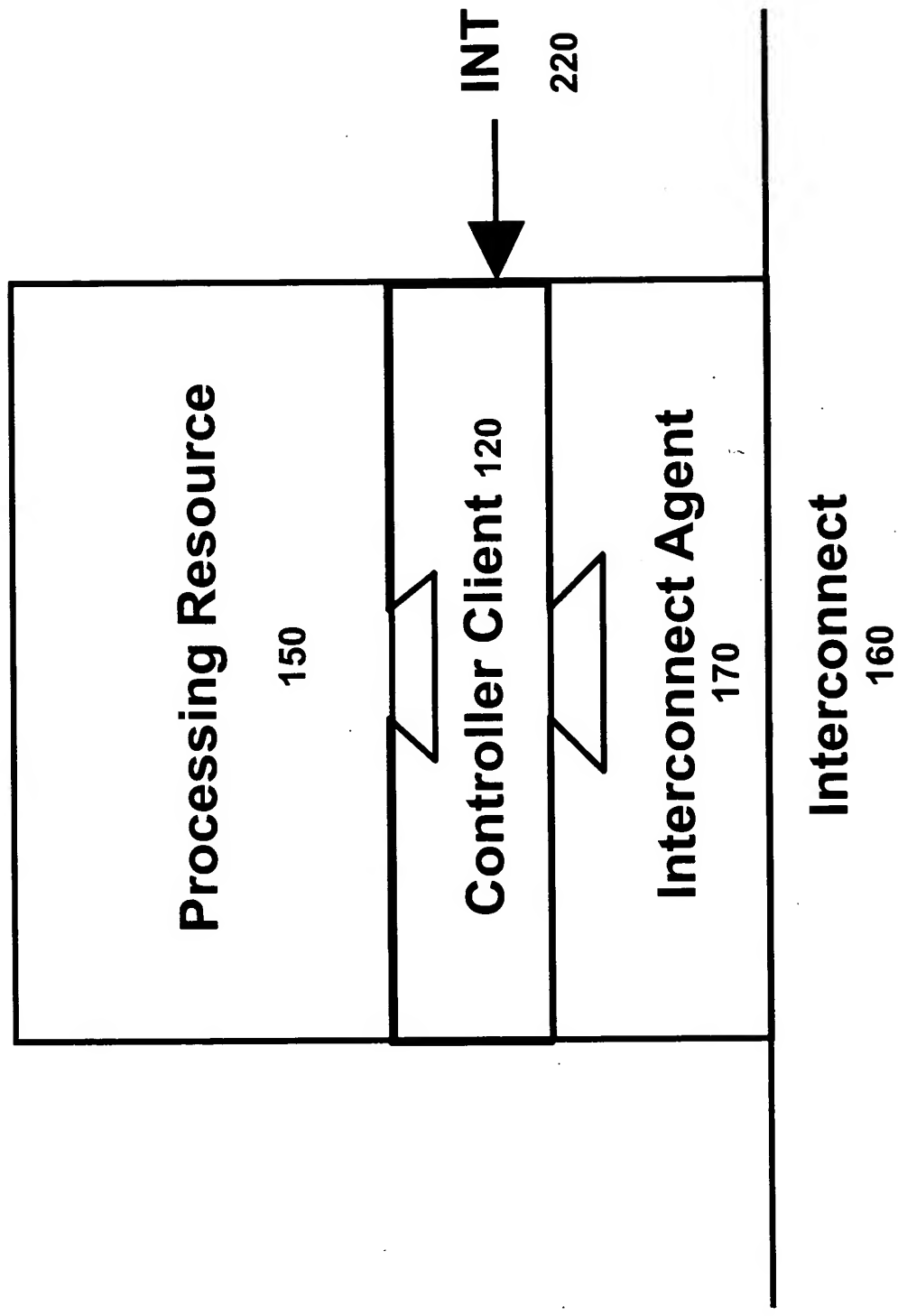
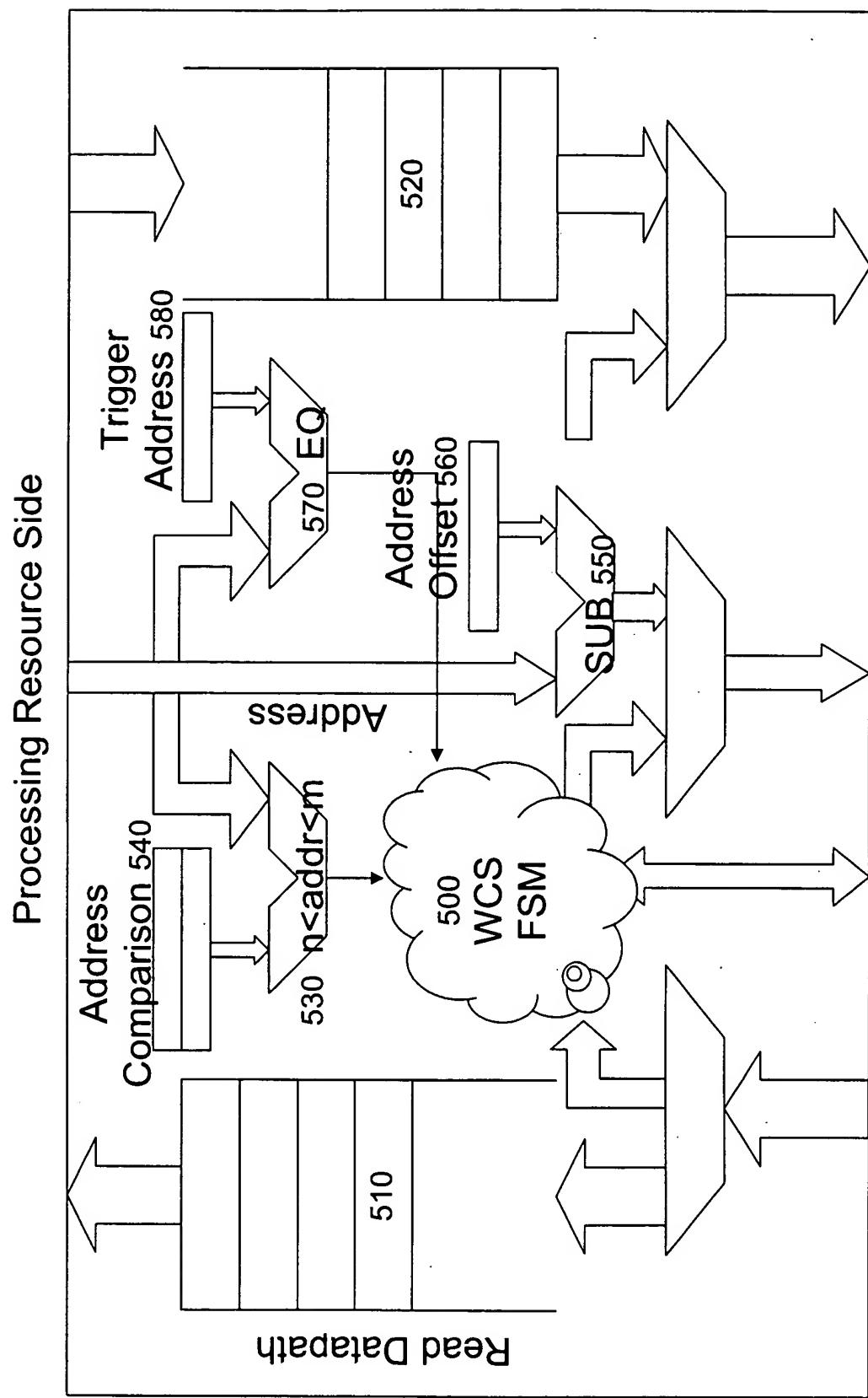


Figure 7



System Side
Figure 8


Word	Bit																															
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0																																
1																																
2																																
3	Metric[1]																															
4	Metric[0]																															
5	pReference																															
6	Next Index[1]																Next Index[0]															
7	Previous Index[1]																Previous Index[0]															

Figure 9a

Field	Type	Description
Status.Type	Unsigned nibble	Determines the type of the WME
Status.Flags	bool []	Type specific WME flags
Metric[1:0]	unsigned long []	Scheduler Metrics
pReference	(void *)	A pointer to a thread control block within system memory
NextIndex[1:0]	unsigned short []	Two forward pointers for autonomous linked lists
PreviousIndex[1:0]	unsigned short []	Two backward pointers for autonomous linked lists

Figure 9b

Word	Bit																															
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	Dependency Reference																															
1	Dependency Timeout																															
2	Scheduler Tier ID																PendingQueueID								Status							
3	Metric[1]																															
4	Metric[0]																															
5	pReference																															
6	Next Index[1]																Next Index[0]															
7	Previous Index[1]																Previous Index[0]															

Figure 9c

Field	Type	Description
Dependency Reference	(void *)	Optional pointer to a synchronisation primitive (mutex, semaphore etc) upon which this thread is dependant.
Dependency Timeout	unsigned long	Optional timeout for synchronisation based on temporal state.
Scheduler Tier ID	unsigned short	Index of Weaver I memory element containing the parent scheduler to which the synchronised thread is queued.
Status.Type	Unsigned nibble	Set to 1.
Status.Flags	bool []	Work queue status flags determining the following status: 0: Pushed (thread has been pushed into scheduler queue) 1: Popped (thread has been popped from scheduler queue) 2: Dispatched (thread has been dispatched)
Metric[1:0]	unsigned long []	Scheduler Metrics
pReference	(void *)	A pointer to a thread control block within system memory
NextIndex[1:0]	unsigned short []	Two forward pointers for autonomous linked lists
PreviousIndex[1:0]	unsigned short []	Two backward pointers for autonomous linked lists

Figure 9d

Word	Bit																															
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	Head Index																Number of Elements															
1	Parent Index																Total Thread Elements															
2	Sched Push Op				Sched Pop Op				Metric Push Op				Metric Pop Op				Bundle Limit								Status							
3	Metric[1]																															
4	Metric[0]																															
5	pReference																															
6	Next Index[1]																Next Index[0]															
7	Previous Index[1]																Previous Index[0]															

Figure 9e

Figure 9f

Field	Type	Description
Head Index	unsigned short	The head index of the underlying queue structure.
Number of Elements	unsigned short	The number of elements in the immediately underlying queue structure
Parent Index	unsigned short	Pointer to the parent scheduler tier or dispatch queue.
Total Thread Elements	unsigned short	The total number of thread elements in the underlying queue structure (i.e. excluding scheduler tiers)
Scheduler Push Operator	unsigned char	Operator to be executed when a thread is pushed onto the scheduler tier.
Scheduler Pop Operator	unsigned char	Operator to be executed when a thread is popped from the scheduler tier.
Metric Push Operator	unsigned char	Scheduler metric propagation operator for execution when a thread is pushed onto the scheduler tier.
Metric Pop Operator	unsigned char	Scheduler metric propagation operator for execution when a thread is popped from the scheduler tier.
Parent Index	unsigned short	Pointer to the parent scheduler tier or dispatch queue.
Bundle Limit	unsigned char	The maximum number of threads that may be scheduled from this tier in a bundle (for memory conscious scheduling purposes)
Status.Type	Unsigned nibble	Set to: 2: Dynamic scheduler tier 3: Locked dynamic scheduler tier 4: Static scheduler tier 5: Root scheduler tier
Status.Flags	bool []	Unused
Metric[1:0]	unsigned long []	Scheduler Metrics
pReference	(void *)	Used within dynamic scheduler tiers to identify the final thread element of the tier.
PreviousIndex[1] NextIndex[1]	unsigned short []	Sub-block work queue list pointers.
PreviousIndex[0] NextIndex[0]	unsigned short []	Dual attached linked list for scheduler peers.

Word	Bit																															
	31	30	29	28	27	26		24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9		7	6	5	4	3	2	1	0
0	Preemption Priority																Root Scheduler Index															
1	Number of Elements																Head Index															
2	Full Depth								Proc Element ID								Status															
3	Metric[1]																															
4	Metric[0]																															
5																																
6	Next Index[1]																Next Index[0]															
7	Previous Index[1]																Previous Index[0]															

Figure 9g

Field	Type	Description
Preemption Priority	unsigned short	Priority of the currently executing thread. Used to avoid priority inversion.
Root Scheduler Index	unsigned short	Index of the memory element containing the root scheduler at the head of the scheduling cone for this resource.
Number of Elements	unsigned short	The number of thread elements currently held within the dispatch queue.
Head Index	unsigned short	The head index of the dispatch queue.
Status.Type	Unsigned nibble	Set to 6.
Status.Flags	bool []	Work queue status flags.
Metric[1]	unsigned long	Power down eligibility counter.
Metric[0]	unsigned long	Power down eligibility thresholds.
PreviousIndex[1] NextIndex[1]	unsigned short []	Sub-block work queue list pointers.
PreviousIndex[0] NextIndex[0]	unsigned short []	Inter dispatch queue list pointers.

Figure 9h

Word	Bit																															
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0	Head Index																Number of Elements															
1																																
2																																
3																																
4																																
5																																
6																	Next Index[0]															
7																	Previous Index[0]															

Figure 9i

Field	Type	Description
Head Index	unsigned short	Pointer to the head index of the pending list.
Number of Elements	unsigned short	Number of pending list elements.
Status.Type	Unsigned nibble	Set to 7.
Status.Flags	bool []	Unused
PreviousIndex[0] NextIndex[0]	unsigned short []	Inter pending queue list pointers.

Figure 9j

Word	Bit																															
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
0																																
1	Dependency Timeout																															
2																																
3																																
4	Metric[0]																															
5																																
6	Next Index[1]																Next Index[0]															
7	Previous Index[1]																Previous Index[0]															

FIGURE 9k

Field	Type	Description
Dependency Timeout	unsigned long	Timeout for comparison with the thread currently being inserted.
Type	unsigned char	Set to 8.
Flags	bool[]	Unused
Metric[1:0]	unsigned long []	Scheduler Metrics
NextIndex[1:0]	unsigned short []	Two forward pointers for autonomous linked lists
PreviousIndex[1:0]	unsigned short []	Two backward pointers for autonomous linked lists

FIGURE 9L

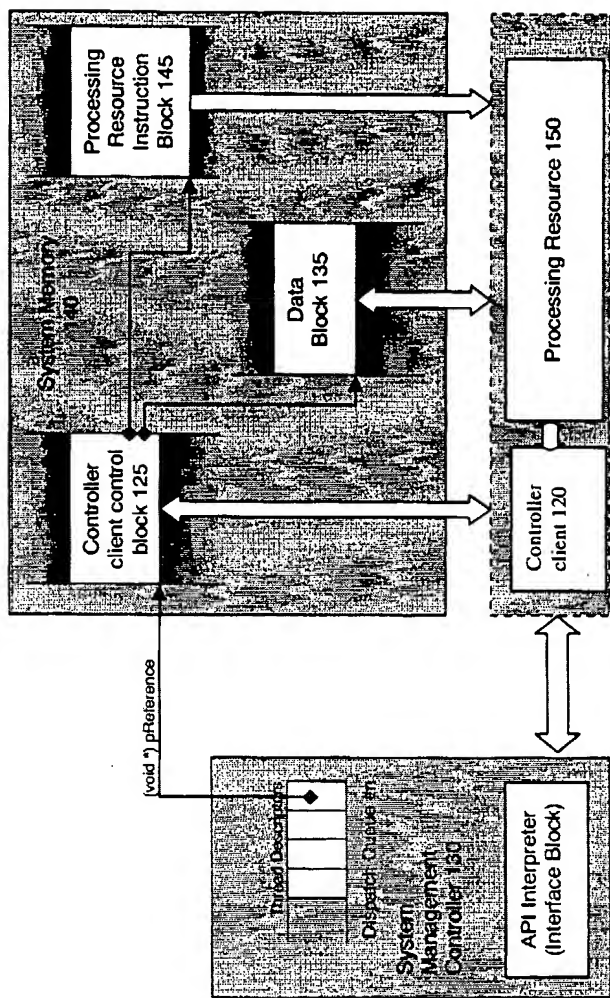


Figure 10

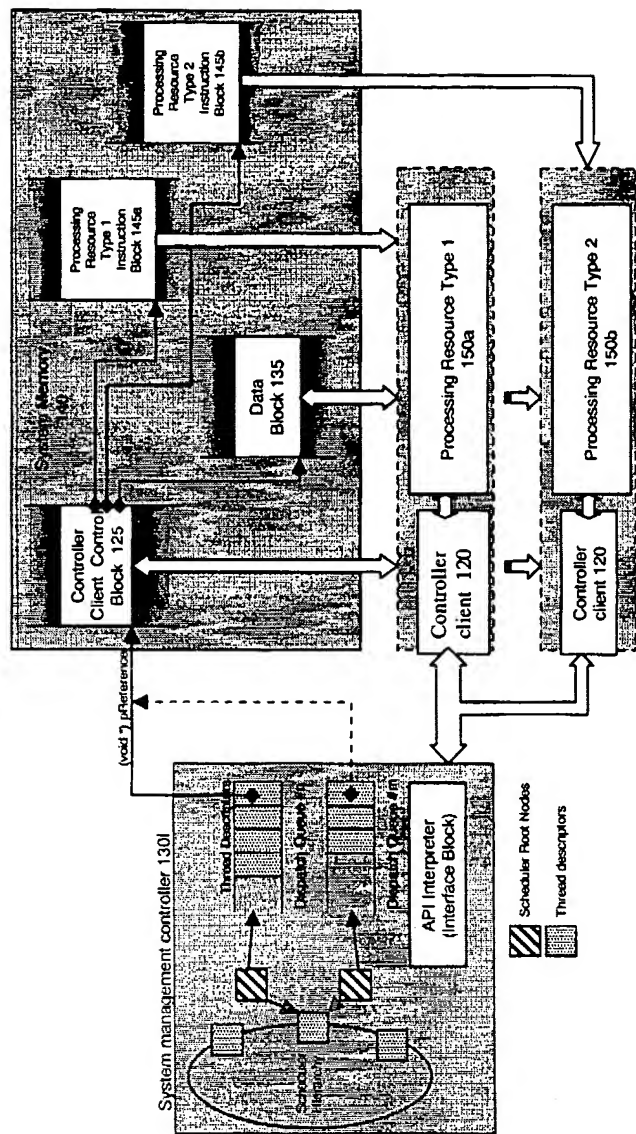


Figure 11

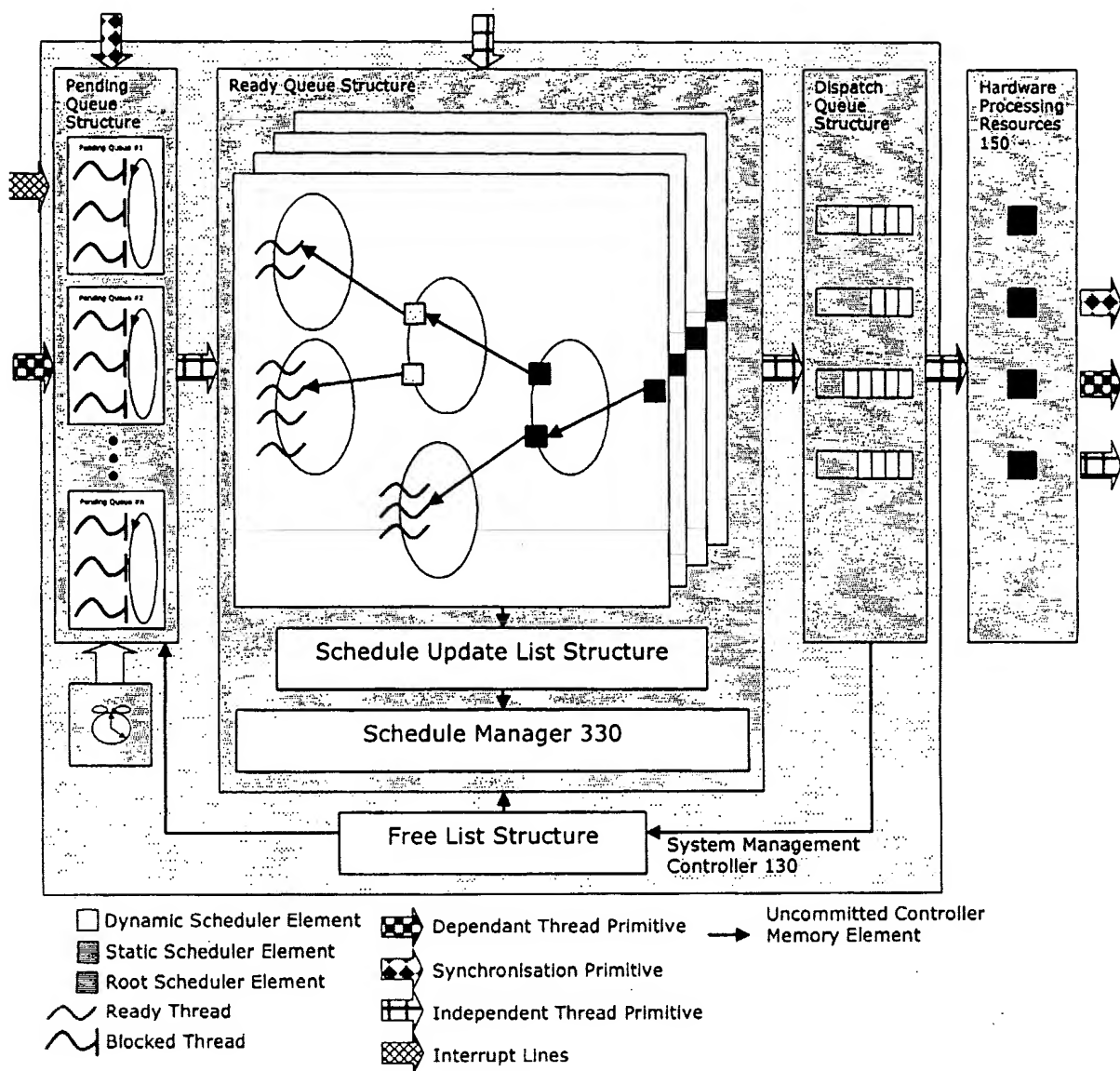


Figure 12

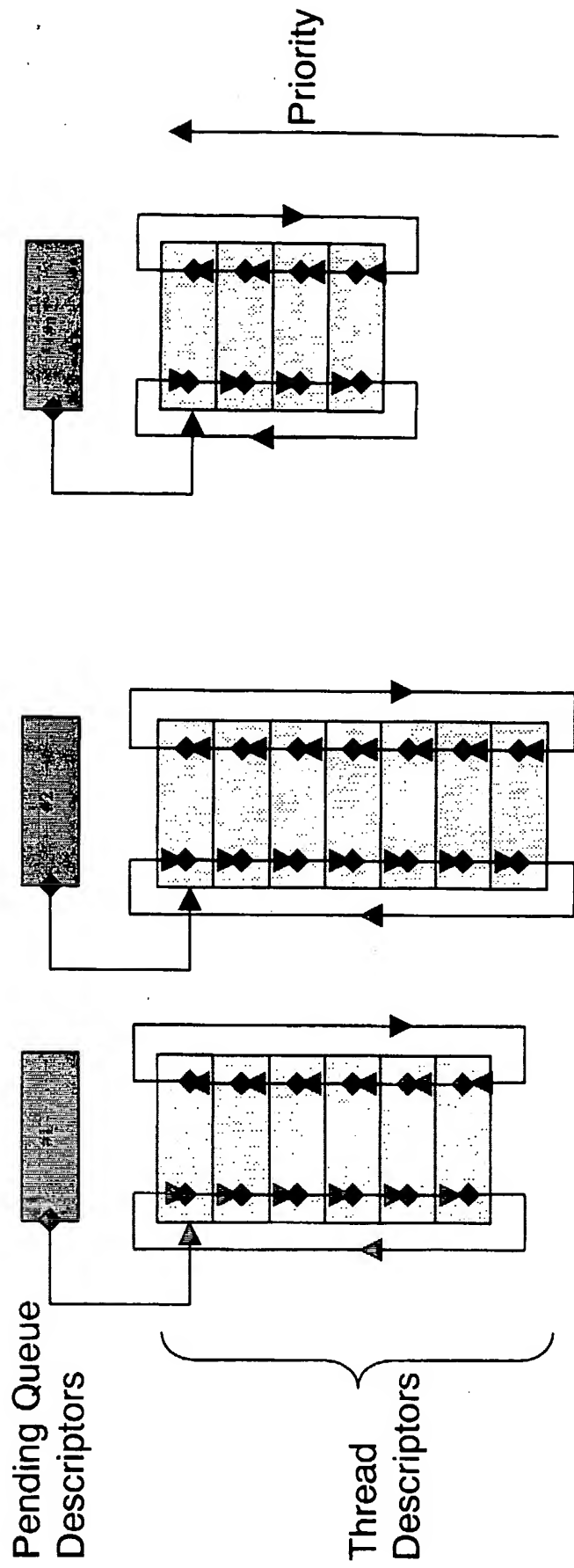


Figure 13

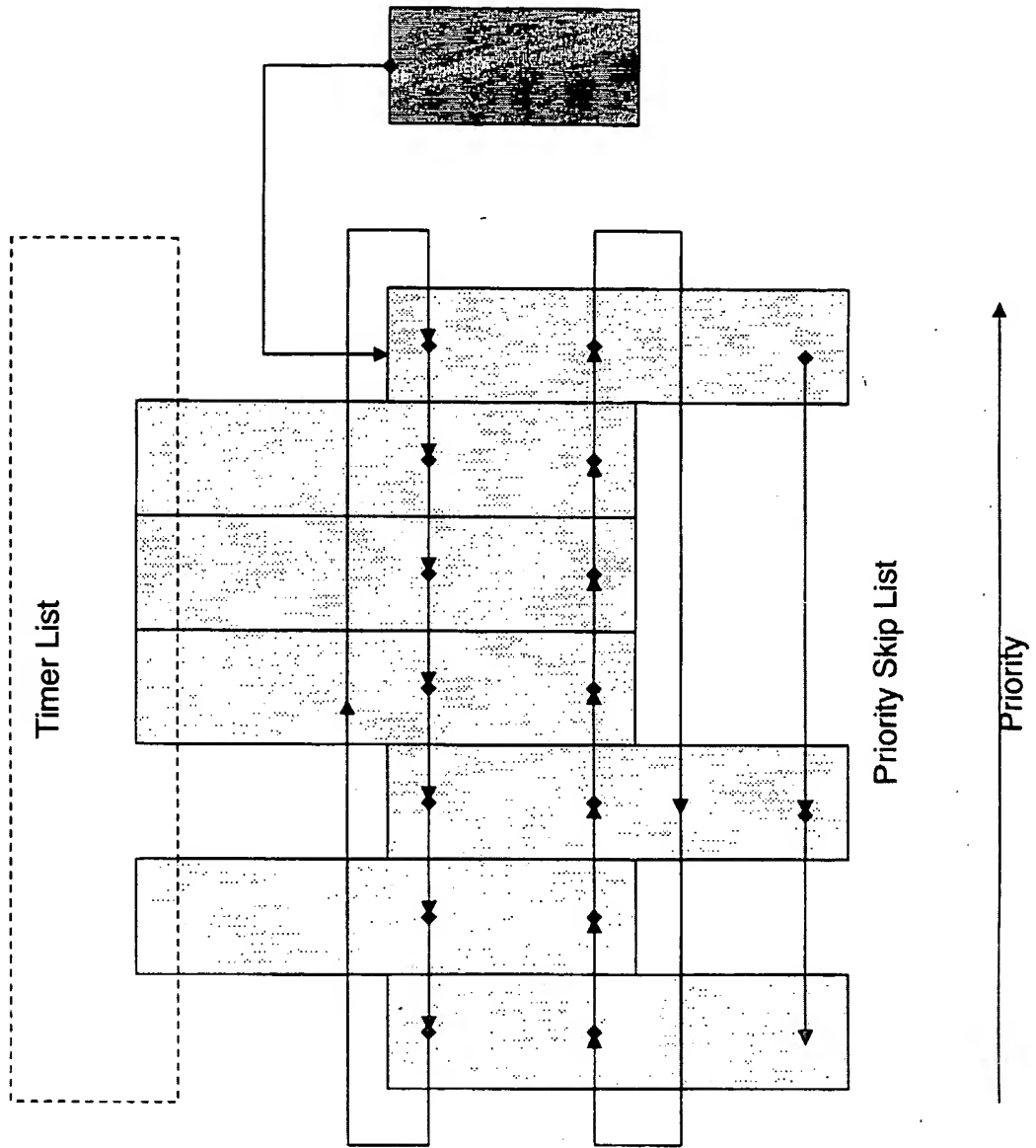


Figure 14

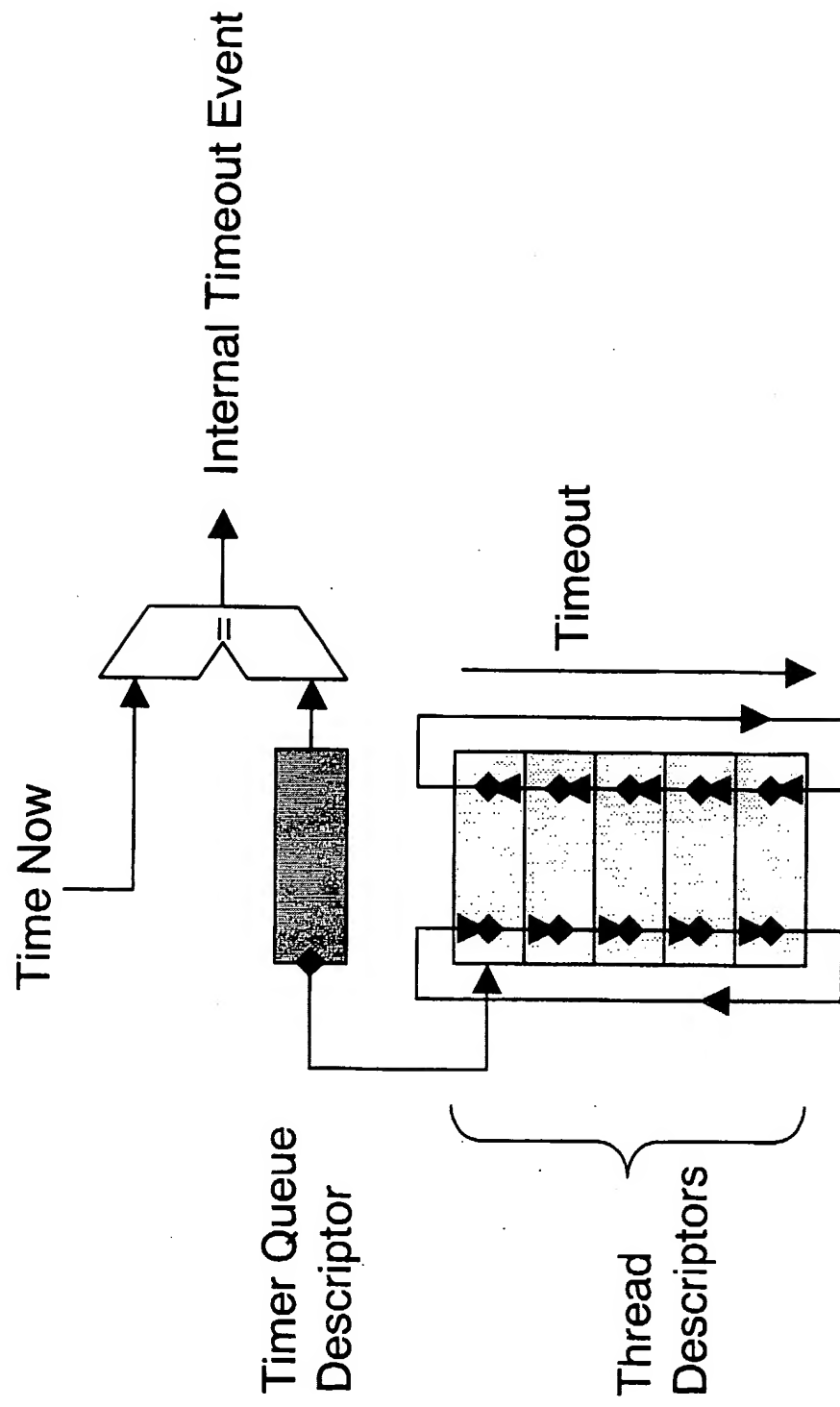


Figure 15

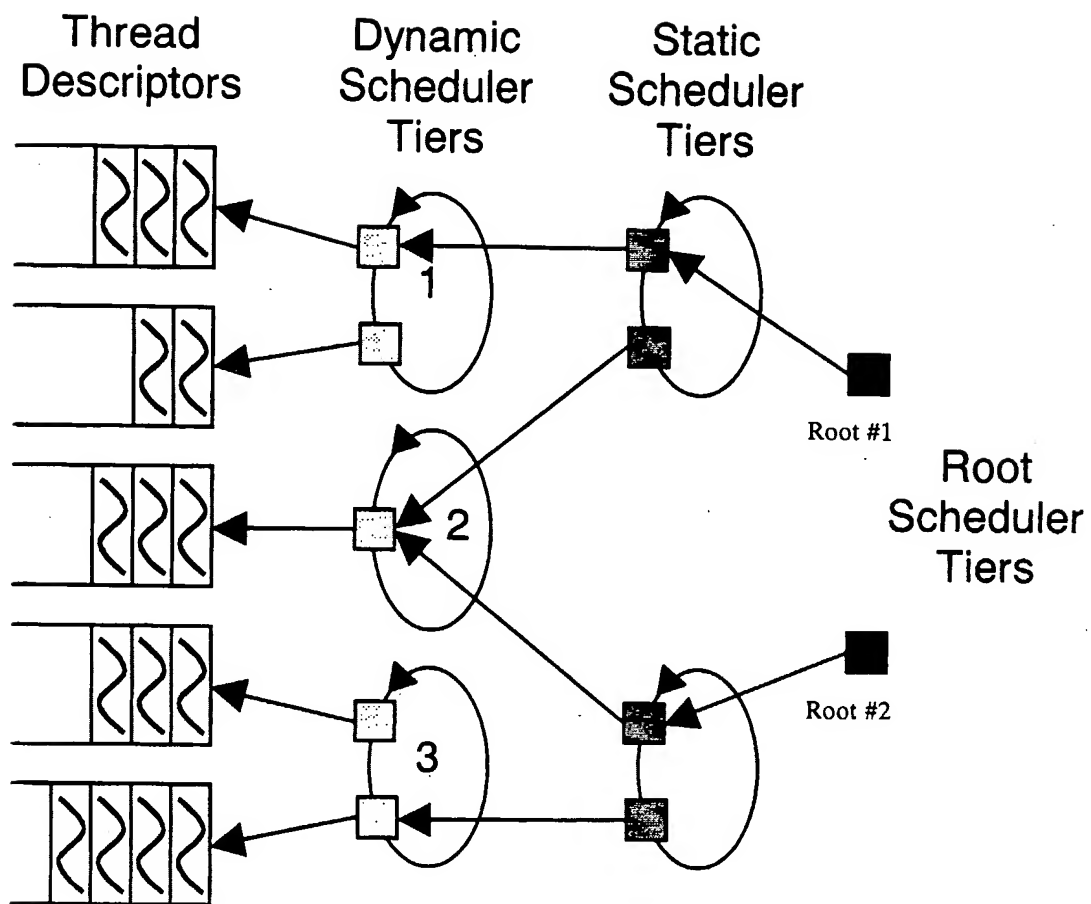


Figure 16

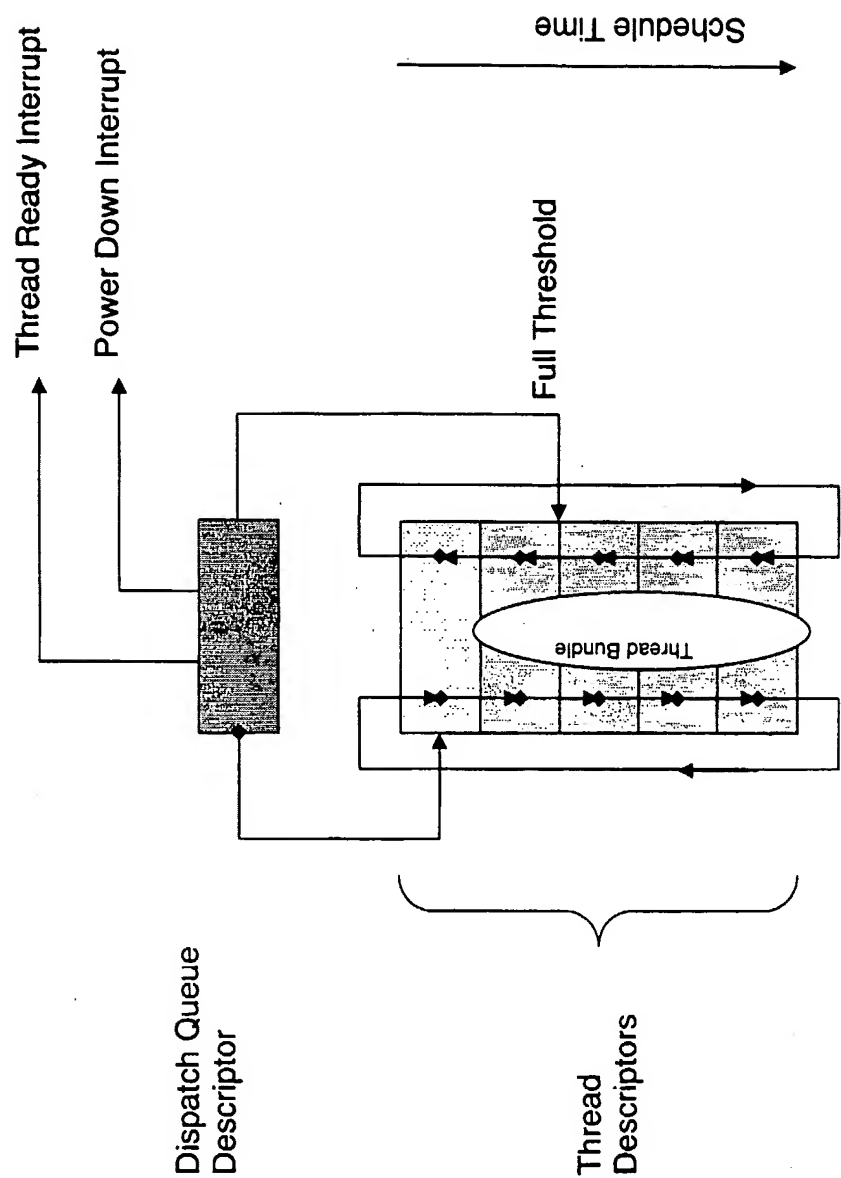


Figure 17

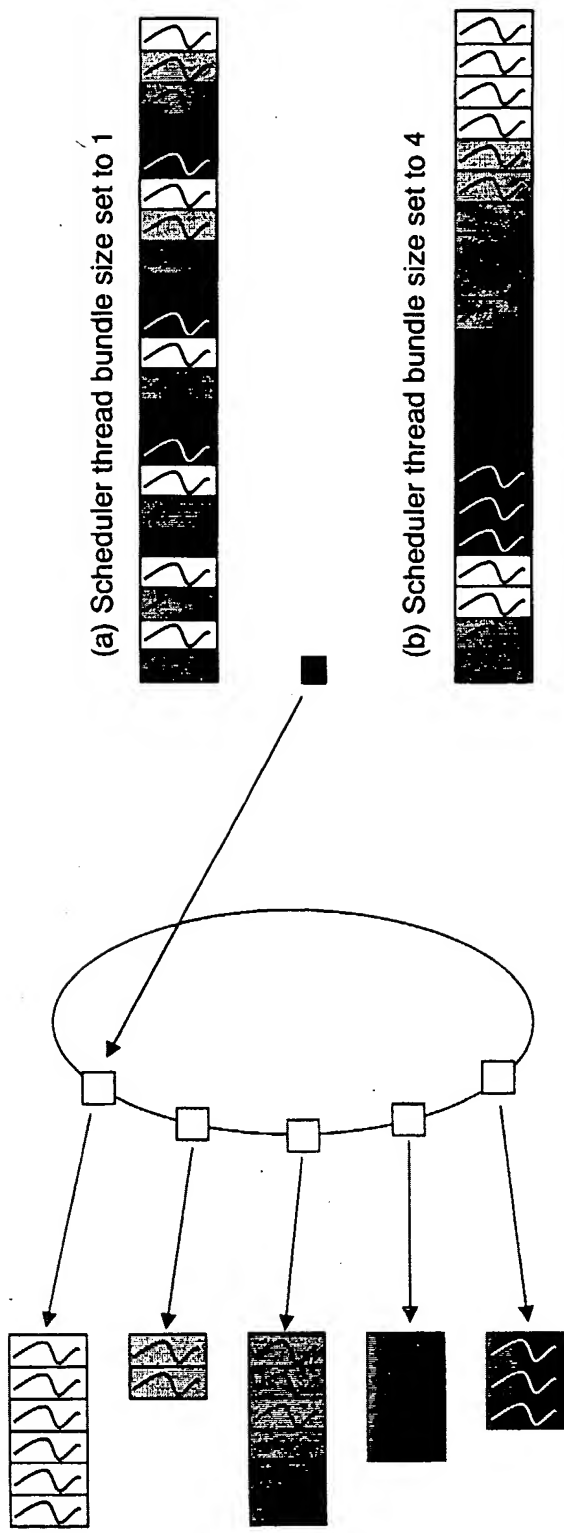


Figure 18

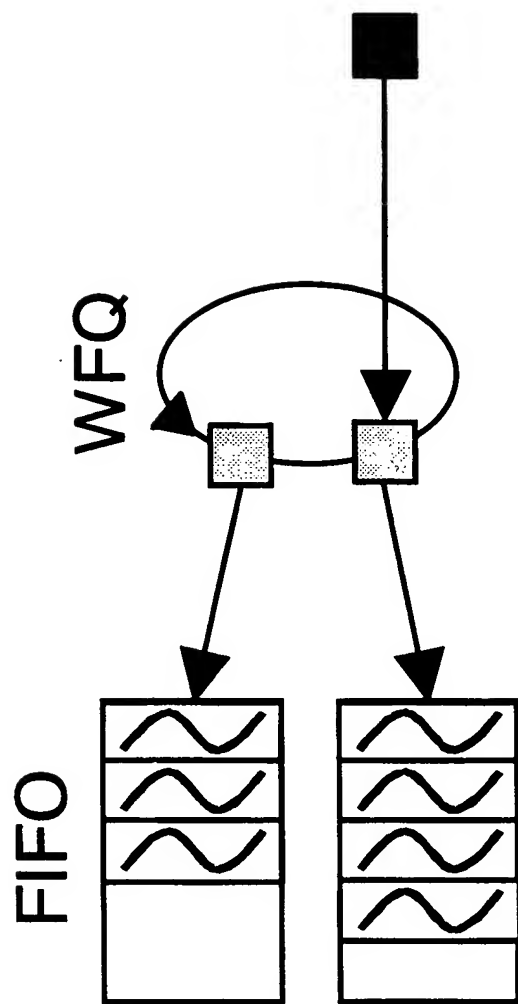


Figure 19